Chapter 33A - BASIN MANAGEMENT OBJECTIVES [4]

(4) **Editor's note—** Section 1 of Ord. No. 4034, adopted Sept. 13, 2011, amended Ch. 33A, Groundwater Management, in its entirety to read as herein set out. Former Ch. 33A was comprised of §§ 33A-1—33A-14, and derived from Ord. No. 3869, adopted Feb. 10, 2004; and Ord. No. 3918, adopted Dec. 13, 2005.

33A-1 - Legislative intent.

(a) The Board finds that the protection of the groundwater resource for beneficial use within the County is of major concern to the residents of the County for the protection of their health, welfare and safety. The Board further declares that the beneficial use and maintenance of groundwater and protection of recharge zones is of critical importance to the economy and environment of the County.

(b) The Board intends to ensure the continued sustainability of groundwater quantity and quality within the County.

(c) The Board intends to protect groundwater quality and prevent land subsidence.

(d) The Board does not hereby intend to regulate, outside of Chapter 33, the use of groundwater.

(e) It is essential to the success of the Basin Management Objective program that the County maintains a monitoring program addressing groundwater elevations, groundwater quality and land subsidence.

(f) In adopting the groundwater management ordinance codified in this chapter, the Board does not intend to limit other means of managing groundwater within the County authorized elsewhere in statute or ordinance, and intends to work cooperatively with local entities to monitor, evaluate and disseminate information on groundwater conditions to foster sound local groundwater management.

(g) It is the intent and purpose of the information collection effort described by this chapter to assist in avoiding negative effects on health and welfare of County residents, such as:

(1) Lowering of groundwater levels leading to increased energy consumption, a potential decrease in stream flows, the increased cost of deepening existing wells and the prospect that new wells shall need to be deeper and more costly than would otherwise be required;

(2) Damage to public roads, bridges, subterranean infrastructure, canals and other structures caused by land subsidence at substantial cost to the public;

(3) Depleting surface and subsurface flows leading to the potential loss of wildlife and critical terrestrial and wetland habitat;

(4) Degradation of groundwater quality;

(5) A degradation of property values and injury to agricultural lands in Butte County.

(h) It is the purpose and intent of this chapter to establish an effective policy concerning groundwater that will assure that the overall economy and environment of the County is protected. Through the adoption of this chapter, the Board of Supervisors seeks to protect the health, safety and welfare of County residents and the general public.

(i) The Board does not intend, in adopting this chapter, to determine whether any groundwater in storage above established Basin Management Objectives is surplus groundwater, to define surplus groundwater, or to impose fees, assessments, charges or taxes upon County residents and/or business owners.

(Ord. No. 4034, § 1, 9-13-11)

33A-2 - Definitions.

(a) "BMO Alert Stage" means a measurement not achieving a Basin Management Objective.

(b) "Aquifer" means a geologic formation that may store, transmit and yield significant quantities of groundwater to wells and springs.

(c) "Basin Management Objectives (BMO)" means criteria established for acceptable groundwater elevations, groundwater quality and land subsidence of the Butte County groundwater resource under the provisions of this chapter.

(d) "Board" means the Board of Supervisors of Butte County.

(e) "Commission" means the Butte County Water Commission.

(f) "County" means the County of Butte.

(g) "District" means any purveyor of water wholly or partly within the boundaries of the County that provides water for agricultural, domestic, municipal or industrial use.

(h) "Department" means the Butte County Department of Water and Resource Conservation.

(i) "Extensometer" means an instrument for measuring land subsidence.

(j) "Groundwater" means all water beneath the surface of the earth below the zone of saturation, but does not include water which flows in known and definite subsurface channels, as set forth in the case of Los Angeles v. Pomeroy (1899) 124 Cal. 597.

(k) "Groundwater Management Plan" means a plan prepared pursuant to the California Groundwater Management Act (commencing with Water Code Section 10750 et seq.).

(l) "Land Subsidence" means the permanent lowering of the ground surface caused by the inelastic consolidation of clay beds in the aquifer system.

(m) "Recharge" means flow to groundwater storage from precipitation, irrigation, infiltration from streams, spreading basins and other sources of water.

(n) "Technical Advisory Committee" means the seven (7) person committee nominated by the Water Commission and appointed by the Board as defined under Chapter 33.

(o) "Water Advisory Committee (WAC)" means an advisory body appointed by the Board.

(Ord. No. 4034, § 1, 9-13-11)

33A-3 - Water Advisory Committee.

(a) The Water Advisory Committee (WAC) shall be appointed by the Board. The WAC shall be an advisory committee comprised of area-specific members, with one (1) member appointed from each defined sub-inventory unit within the Sacramento Valley Groundwater Basin portion of the County, and one (1) each from the Foothill and Mountain inventory units, as defined in the 2001 Butte County Water Inventory/Analysis report. Additional at-large, nonvoting members shall be appointed, one (1) from each incorporated municipality in the County: Chico, Oroville, Paradise, Gridley and Biggs, one (1) from the agricultural community, one (1) from the environmental community and one (1) from each organized watershed group in the county. The operation of the Water Advisory Committee shall be governed by bylaws approved by the Board of Supervisors.

(b) Sub-inventory Units.

(1) Vina;

(2) M&T;

(3) Llano Seco;

(4) Durham/Dayton;

(5) Western Canal;

(6) Pentz;

(7) Esquon;

(8) Cherokee;

(9) Richvale;

(10) Thermalito;

(11) Biggs-West Gridley;

(12) Butte Sink;

(13) Butte;

(14) North Yuba;

(15) Angel Slough;

(16) Chico Urban Area.

(c) The local representatives of each sub-inventory unit shall be responsible for providing the department with input on the development of the Basin Management Objective for their sub-inventory unit, providing the department with information to assist in the evaluation of their BMOs and facilitating outreach to stakeholders in their sub-inventory unit.

(d) Sub-inventory units may be added, modified or changed as deemed necessary by the stakeholders within the sub-inventory unit. All modifications and changes shall be reviewed by the WAC and approved by the Board.

(Ord. No. 4034, § 1, 9-13-11)

33A-4 - Appointments.

(a) The Board shall consider all nominations for appointment to the Water Advisory Committee that meet the following criteria:

(1) Candidates who reside, own property or have their principle place of business within the sub-inventory unit or entity which they would represent and are willing to serve in a voluntary capacity; and

(2) Candidates nominated by the citizens of the sub-inventory unit.

(b) Members of the WAC shall serve a four-year term. Terms shall be staggered by lot for two (2) years at the onset and open to reappointment for consecutive terms.

(Ord. No. 4034, § 1, 9-13-11)

33A-5 - Basin Management Objectives.

(a) Basin Management Objectives shall be established for:

(1) Groundwater elevation;

(2) Groundwater quality (temperature, pH and salinity); and

(3) Land subsidence.

(b) BMOs shall be based on criteria utilizing data collected from the monitoring network.

(c) BMO Groundwater Elevation Criteria. One (1) of the following methodologies shall be used to determine the groundwater elevation BMO for wells selected as part of the monitoring network:

(1) Historic Range Method:

i. For wells that have a period of record dating back to at least 1970, the BMO will be

based on the historic low groundwater elevation measurement plus twenty percent (20%) of the average groundwater elevation taken from the first year though 2006.

a. The BMO Alert Stage 1 will be reached for measurements below the BMO.

b. The BMO Alert Stage 2 will be reached if measurements are below the historic low.

ii. For wells that do not have a period of record back to 1970, the BMO will be based on the historic low groundwater elevation measurement taken prior to 2006.

a. The BMO Alert Stage 1 will be reached for measurements below the BMO.

b. The BMO Alert Stage 2 will be reached for measurements below the historic low minus the average groundwater elevation for the period of record.

(2) Specific Depth Method: The BMO will be set at five (5) feet below the average spring groundwater elevation.

i. The BMO Alert Stage 1 will be reached if measurements are below the established BMO for that well.

ii. The BMO Alert Stage 2 will be reached if BMO Alert Stage 1 continues for a consecutive year(s).

iii. The BMO Alert Stage 3 will be reached if measurements are below ten (10) feet below the average spring groundwater elevation established for the well.

(d) BMO Water Quality Criteria.

(1) The BMO Alert Stage for temperature will be reached when the measurement is more than five (5) degrees outside of the historic range of measurements.

(2) The BMO Alert Stage for electrical conductivity (EC uS) will be reached for measurements less than 900 for drinking water or less than 700 for agricultural water.

(3) The BMO Alert Stage for pH will be reached for measurements below 6.5 or above 8.5

(e) BMO Subsidence Criteria.

(1) Alert Stage 1 will be reached if annual elastic subsidence exceeds the average annual elastic subsidence measured over the period of record of the extensometer.

(2) Alert Stage 2 is reached when the annual elastic subsidence exceeds the maximum recorded elastic subsidence over the period of record for the extensometer.

(3) Alert Stage 3 is reached when inelastic subsidence is detected based on annual measurements taken on March 1.

(Ord. No. 4034, § 1, 9-13-11)

33A-6 - Monitoring BMOs.

(a) Monitoring programs designed to detect changes to groundwater elevations, groundwater quality and land subsidence are the key to proper assignment and evaluation of BMOs.

(b) The monitoring programs shall measure select wells and extensometers to determine changes in groundwater elevation, groundwater quality and land subsidence.

(c) The County shall make available all groundwater monitoring data through the Department website in a timely manner.

(Ord. No. 4034, § 1, 9-13-11)

33A-7 - Monitoring networks.

(a) The monitoring networks used in the development and evaluation of BMOs may include as many of the following as are feasible: selected domestic and irrigation wells from water districts, private owners, municipal and industrial water suppliers and dedicated monitoring wells. Participation in monitoring activities by private landowners shall be on a voluntary basis.

(b) The selection of monitoring wells will be done in consultation with the Technical Advisory Committee and applicable sub-inventory unit representatives.

(c) Additional monitoring wells may be installed and monitored as funding allows.

(Ord. No. 4034, § 1, 9-13-11)

33A-8 - Monitoring frequency.

(a) Monitoring Frequency for Groundwater Elevations. At a minimum, groundwater elevations shall be monitored four (4) times during the year: one (1) measurement prior to the irrigation season in March, two (2) measurements during peak groundwater use in July and August, and one (1) measurement following irrigation season in October.

(b) Monitoring Frequency for Groundwater Quality. The frequency of groundwater quality monitoring shall be at a minimum of once a year during peak groundwater use (July or August). The following minimum groundwater quality measurements shall be taken:

(1) Groundwater temperature;

(2) Groundwater pH; and

(3) Groundwater electrical conductivity.

(c) Monitoring Frequency for Land Subsidence. Land subsidence monitoring shall be conducted on a continuous basis through the use of extensometers. Land subsidence may also be monitored by resurveying existing benchmarks in the sub-inventory unit area.

(Ord. No. 4034, § 1, 9-13-11)

33A-9 - Changes in monitoring.

(a) Changes in Monitoring Frequency. If evaluation of the groundwater elevation, groundwater quality

or land subsidence data indicates a need for greater monitoring frequency, the department may make changes to the monitoring schedule, as resources allow.

(b) Changes in Monitoring Network. If evaluation of the groundwater elevation, groundwater quality standards or land subsidence criteria data indicates a need for a greater number of monitoring wells or survey monuments, the Department may make changes to their monitoring network, as resources allow.

(Ord. No. 4034, § 1, 9-13-11)

33A-10 - Monitoring protocol.

(a) All data shall be collected and recorded through methods generally accepted in the applicable scientific field.

(b) The Department shall establish methods for data collection, storage and dissemination. Methods for collecting groundwater elevations, groundwater quality and land subsidence shall follow established quality assurance and quality control guidelines.

(Ord. No. 4034, § 1, 9-13-11)

33A-11 - Review of technical data.

(a) Standard methods for review and analysis of the collected data shall be established by the department in consultation with the Technical Advisory Committee.

(b) The Technical Advisory Committee shall review, analyze and evaluate BMOs based on spring and fall monitoring data.

(c) If a BMO Alert Stage is reached in one (1) or more sub-inventory units, the Technical Advisory Committee will evaluate possible causes and may provide recommendations.

(d) The Technical Advisory Committee shall consider all available pertinent hydrologic data, precipitation, information from sub-inventory unit representatives and other relevant information when reviewing BMOs.

(e) The Department will provide the Water Advisory Committee, Water Commission, the Board and the public with the Technical Advisory Committee's review, analysis and recommendations, if applicable.

(Ord. No. 4034, § 1, 9-13-11)

33A-12 - BMO Alert Stage Response.

In the event that a BMO Alert Stage is reached, the Department, in cooperation with the sub-inventory unit representative, will:

(a) Provide information and outreach to and solicit information from stakeholders in the SIU as appropriate.

(b) Assist the TAC in their evaluation.

(Ord. No. 4034, § 1, 9-13-11)

33A-13 - Reporting.

(a) The Department shall disseminate information on BMOs, the monitoring network, data and analysis to the public and through the Department website.

(b) The Department shall present BMO monitoring data, TAC analysis and other pertinent information to the Water Commission, Water Advisory Committee, sub-inventory unit representatives and stakeholders.

(c) The Department shall submit a report to the Board of Supervisors on the BMO program at their first regular meeting in February.

(Ord. No. 4034, § 1, 9-13-11)